2: Fortes E-5 (1934-1937) 1945
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in serious soil erosion due to over-cultivation and in the diminution of uncultivated bush land, so that firewood and other sylvan products cannot be found within six or more miles of the settlements.

District	*Area*	*Population*	*Density per sq. mile*
Navrongo . .	1,551	120,870	77·96
Zuarungu . .	781	133,981	171·55
Kusaasi* . .	1,227	151,715	123·64
Mamprusi* .	2,719	61,520	22·62
Dagomba* . .	12,257	191,956	15·66

* Partly in Mandated Territory of Togoland.

In spite of the general similarity of climate and vegetation in the Sudanese Zone, local variations produce significant ecological differences. This is shown in the Northern Territories of the Gold Coast by the differences in agriculture north and south of the Gambaga scarp. The steep scarp marks both a geological and an ecological line of division. South of it the rock formations are of sandstone and shale, north of it granite, quartz, and greenstone predominate. South of the scarp a form of shifting cultivation is customary, and yams (*Dioscorea* spp.) are grown on a large scale side by side with millet (*Pennisetum typhoides*, var.), guinea corn (*Sorghum vulgare*), and maize (*Zea mays*). North of it yams will not grow easily and cereal crops form the staple food supply.[1]

The relative scarcity of population in the yam-growing districts compared with the congested areas north of the White Volta may be due to unknown historical and cultural factors, but endemic diseases have undoubtedly impeded population growth. While malaria, yaws, and leprosy, to mention only the commonest enemies of native health, are widespread throughout the Northern Territories of the Gold Coast, sleeping-sickness is also endemic throughout the Mamprusi and Dagomba districts. In the central sectors north of the scarp sleeping-sickness occurs only sporadically near the rivers.

Topographical differences also appear to influence the distribution of population. The high plateau which stretches from the White Volta northwards is more suited for permanent habitation than the low-lying flats which make up the greater part of Mamprusi and Dagomba. In the wet season they turn into quagmires, in the dry season they are arid tracts seriously short of water-supplies. North of the White Volta numerous streams and small rivers combine with the relatively greater elevation to drain the plateau effectively during the heavy rains; and though surface water becomes scarce in the dry season, shallow pits generally provide sufficient water for normal needs.

The district of Zuarungu is a typical portion of the Trans-Volta plateau. A number of bouldery hills from 100 to 500 feet high are scattered over its undulating surface. The most conspicuous are the Tong Hills, a small range stretching for about four miles just north of the river. It adds an

[1] Cf. Fortes, M. and S. L., 'Food in the Domestic Economy of the Tallensi', *Africa*, ix. 2, 1936; and Lynn, C. W., op. cit.

2: Fortes E-5 (1934-1937) 1945
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146 No biological or medical research has hitherto been carried out among
164 the Tallensi or their nearest neighbours. Hence it is impossible to determine how far their physique, efficiency, and standard of health have been affected by their low scale of nutrition. To the lay observer they do not appear to be stunted or to show a high incidence of physical defects. They are fortunate in living outside the sleeping-sickness zone, but the common endemic diseases of the region are rife among them. The
[657] natives have no reliable remedies for these diseases, and the Government dispensary at Zuarungu, the only regular medical service provided for the district, cannot cope with more than a fraction of the sick. From the point of view of physical health the Tallensi of to-day are probably little better off than their fathers were.

291 Native habits of dress and personal hygiene are doubtful assets from
515 the point of view of health. Children go stark naked till adolescence, in the case of boys, and till their first pregnancy in the case of girls. Women go naked except for the perineal band. Men always wear a loin-cloth for the sake of modesty, but it is usually grimy with accumulated dirt. In addition, a man usually wears a goatskin or sheepskin, or a ragged remnant of an old tunic or cloth slung across his back, as his working garb; clothes are worn only on special occasions.

515 Whether or not these customs of dress are injurious, the indifference of the Tallensi to bodily cleanliness cannot be beneficial to their health. By European or Coast African standards, the Tallensi and their neighbours are dirty people. They wash only rarely, especially in the dry season. This is due, in part, to the scarcity of water and to the fact that soap is still an expensive luxury, but also in some measure to native ideas of cleanliness. Tallensi do not object to body dirt. Only young dandies and marriageable girls take pride in a 'clean skin' as a mark of beauty and wash regularly. It is not surprising, therefore, that the most superficial wounds usually fester.

364 The sanitary habits of the natives are equally primitive. A homestead is usually kept fairly clean indoors, but the live-stock yard is inside the homestead, and the accumulation of manure there, as well as the refuse midden just outside the entrance, are the breeding-places of swarms of
[514] flies. Then, also, the natives defecate just outside their homesteads. The stench around a Tale homestead in the rainy season is enough to shake
[241] the hardiest anthropologist. These noisome accompaniments of home-life do not trouble the natives, who look upon animal manure and human excrement as essential fertilizers for their farms.

181 In spite of these hardships and hazards Tallensi set a very high value
183 on their culture and way of life. In his workaday life the native gives an impression of being a steady, sober person with a good grip of himself. He can work hard if necessary, but he can enjoy idleness too. Wasteful and extravagant at times, especially on certain ceremonial occasions, he is normally frugal and abstemious. A keen sense of property and of the value of material goods goes with generosity to kinsfolk and friends. Though he is no stickler for the letter of custom, he attaches great importance to social rights and obligations. Respect for social and genealogical superiors is a strong point of Tale etiquette, but natives are rarely

2: Fortes E-5 (1934-1937) 1945
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Whether there is food or famine, a bare sufficiency or a surplus for the majority of people, depends on other things than human efficiency. It depends enormously on the weather. Drought (*waar*) in the early months of the rainy season brings hunger; an erratic distribution of rainfall causes a poor harvest; an unusually violent tornado (*sanziug*), crushing and uprooting the young millet, produces a shortage. Locusts (*tinta'aba*) descending suddenly, inexplicably, on the half-grown crops and devouring them, ruin the most efficient farmer's work. These are public calamities beyond human control, and they are an ever-present danger. During my first tour in Taleland a long gap in the normal sequence of the early rains threw everybody into a state of foreboding. Men went about restlessly, waiting anxiously for a sign of rain. During my second tour locusts destroyed the crops in one part of the country. The grief and chagrin of those whose crops had suffered showed that they felt they had suffered an irreparable loss.

Another possible natural disaster which would destroy physical well-being and rend the social fabric is an epidemic of small-pox (*zinzaan*) or of measles (*kasoo*).[1] Cases of *kasoo* occur every year and the mortality is high. I have heard of more than one family in which several children died of it in a week or two. Naturally the natives, who have no remedy for it, regard it with terror. The last small-pox epidemic (before 1937) occurred about a generation ago. The natives know that the white man's precautions will check any future epidemic, but they still dread the danger. For small-pox, when it comes, devastates social life. People stop visiting their kinsfolk and neighbours; stricken families are isolated by a wall of thorn bushes; those who die of small-pox are not even given proper burial but are interred in the midden heap or thrown into the uncultivated bush. At such times small-pox must be referred to by a euphemism. It is 'the chief' (*na'ab*), and a death due to it is 'the chief has bestowed a boon (*na'ab maalya*)'.

These are the ever-possible public calamities which defeat human effort and skill. Private dangers also threaten the individual farmer. A snake might bite him as he stoops to hoe; blight might destroy his millet but leave his neighbour's farms unaffected; sickness might lay him low or deprive him of the help of wife or son.

It must not be thought that the Tale farmer goes about in a permanent state of fear of these external dangers to his welfare and security. When things are going well he does not give a thought to them. Living, as they do, at a subsistence level that gives them no regular surplus over what they require to satisfy their normal wants, the Tallensi take no long-term precautions, either individually or collectively, against the dangers of starvation or pestilence. They have neither the technical means nor the social institutions for such measures. But these threats do materialize often enough for them to serve as the realities towards which Tale acts of ritual self-protection, both individual and collective, are directed. Tallensi do not believe that these ritual acts will prevent natural disasters

[1] From the natives' description of the symptoms, I think the sickness they call *kasoo* is probably measles, but I am not certain and I have not been able to obtain medical corroboration.

3: Fortes E-5 (1934-1937) 1949
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602 769 778 could not have been less than 80 years old. This tree was the centre of the communal life of the neighbourhood. It was, as every native would automatically expect, also an important ancestor shrine. A few years after it sprouted Tiezien's paternal grandfather discovered through a diviner that his mother's father and *his* mother, a Pusunamoo woman, had chosen the baobab as their shrine. The Pusunamoo woman's maximal lineage consecrated it for Tiezien's grandfather. Thereafter sacrifices were regularly offered on the tree. In due course Tiezien succeeded to the custody of this shrine. Then came the influenza epidemic of 1918. Many people died at Kpata'ar, including members of Tiezien's inner lineage and wives and children of the lineage. A diviner revealed that these deaths were being inflicted by the Pusunamoo ancestress in retaliation for long neglect. She demanded that Tiezien should collect a large number of fowls from all the members of his inner lineage and take them to Pusunamoo to be sacrificed to the lineage *bɔyar* of her medial lineage as an atonement. This was Tiezien's first and last contact with his matrilateral kin at Pusunamoo up to 1936.

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602 It is evident, from these examples, as has been previously suggested, that the majority of a man's remote matrilateral kin are not socially relevant for him. All, however, are potentially so and may become so at some time or another; and when they do enter his field of social relations it is chiefly in their ritual capacity.

602 778 769 We said that the most important ancestor shrines linking a man to a matrilateral lineage are *bakologo* and *bɔyar* shrines. Of the two the *bɔyar* shrine is, in fact, the more important. As we have shown in our earlier book,[1] the ancestor cult of the Tallensi culminates in the conception and cult of the *bɔyar*. This notion and the cult that expresses it form the centre of gravity of the lineage system. Hence it seems strange, at first sight, to find that every *bɔyar* must necessarily be derived from a matrilateral lineage. We can understand this, however, if we consider the significance of the *bɔyar* in the lineage system.

602 778 769 613 A *bɔyar* is the shrine consecrated to the founding ancestor of a lineage and his mother. It symbolizes the identity of that lineage and its differentiation from other lineages of the same order within a more inclusive lineage or within a clan. A lineage expands by a process of internal segmentation and differentiation that follows the lines of cleavage inherent in the structure of the joint family.[2] The component segments of a lineage are differentiated from one another primarily by reference to their descent from different 'mothers'—that is different wives of their common founding ancestor. But a woman does not sever her ties with her lineage when she marries and becomes a mother; and in kinship questions Tale thought is dominated by the lineage concept. Hence Tallensi think of a lineage progenitrix not only as such-and-such a

[1] Cf. *Dynamics of Clanship*, p. 137.
[2] Ibid. ch. xii.

7:Lynn G-5 (1932-1936) 1937 FE11 Tallensi FE11

5. A "vicious circle" has been created. Years of living on the margin of subsistence, have sapped the energy of the people and predisposed them to disease; at the present time, many are physically incapable of the hard work which is necessary to bring about an improvement in their conditions.

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Suggestions for the Improvement of Local Agriculture.

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From our study of the causes of food shortage it is possible to suggest ameliorative measures. The two main forms which these measures must take are:—

1. By increasing the area of land in cultivation.

2. By improving the existing system of farming.

But as we have seen above (Indirect Causes of Food Shortage) the effectiveness of the first measure depends upon the second. It is therefore upon measures for improving the existing farming system with which we are concerned at present. Some of the more important of these are considered, in tabular form, below. It should be mentioned that the improvement in water supplies, which is shortly to receive attention (14), will play an important part in the general improvement of conditions, towards which the following suggestions are made:—

1. *Growth of a greater diversity* of crops.

   Too much reliance is placed upon cereals. The planting of more groundnuts and sweet potatoes; the introduction of pigeon peas, "sanzi" (an early maturing Dagomba bean), cassava, and, in some areas, yams and sesamum, would make useful additions to the present range of crops.

2. *The introduction of a rotation of crops.*

   This would require study over a period of years, but if, as seems desirable, the area of legumes and roots is to be increased, some form of rotation will be essential.

3. *Attention to the increase and maintenance of soil fertility.*

   Just as farmyard manure is the basis of arable farming in most other countries in the world, so might it usefully become the basis of arable farming here. "Mixed farming" provides the solution. The livestock of the country have a greater potential value as the producers of